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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARTINA HANCK, GERHARD HOFFMANN, and
KLAUS LUKAS

Appeal 2009-012080
Application 09/402,144
Technology Center 2400

Before DENISE M. POTHIER, KALYAN K. DESHPANDE, and JASON V. MORGAN, *Administrative Patent Judges*.

DESHPANDE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE[1]

The Appellants seek review under 35 U.S.C. § 134(a) of a final rejection of claims 1-3, 10-12, 22-33, and 37-48, the only claims pending in the application on appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

The Appellants invented methods and arrangements for forming and checking a first commutative checksum for digital data which are grouped into a number of data segments, in which a flow control for the individual data segments is no longer required. Specification 2:27-32.

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below [bracketed matter and some paragraphing added]:

> 1. A method for securely controlling transmission of digital data comprising the steps of:
> [1] receiving said digital data;
> [2] grouping said digital data into a number of data segments by a computer;
> [3] forming a first segment checksum for each said data segment in accordance with a type selected from the group consisting of a hashing value and a cryptographic one-way function;
> [4] forming a first commutative checksum by a commutative operation on said first segment checksums, wherein flow control for the data segments is negated by the commutative operation; and

[1] Our decision will make reference to the Appellants' Appeal Brief ("App. Br.," filed Jan. 28, 2008) and Reply Brief ("Reply Br.," filed July 8, 2008), and the Examiner's Answer ("Ans.," mailed May 9, 2008), and Final Rejection ("Final Rej.," mailed June 27, 2007).

[5] cryptographically protecting said first commutative checksum by using a cryptographic operation.

REFERENCES

The Examiner relies on the following prior art:

McNamara	US 4,533,948	Aug. 6, 1985
Frezza	US 4,982,430	Jan. 1, 1991
Kilner	US 5,649,089	Jul. 15, 1997

REJECTIONS

Claims 1-3, 10-12, 22-33, and 37-48 stand rejected under 35 U.S.C §103(a) as being unpatentable over Kilner, Frezza, and McNamara. Ans. 3-10.

ISSUES

The issue of whether the Examiner erred in rejecting claims 1-3, 10-12, 22-33, and 37-48 under 35 U.S.C §103(a) as being unpatentable over Kilner, Frezza, and McNamara turns on whether the combination of Kilner, Frezza, and McNamara teaches or suggests the limitation of flow control for the data segments is negated by the commutative operation and whether there is a motivation to combine the cited prior art.

ANALYSIS

Claims 1-3, 10-12, 22-33, and 37-48 rejected under 35 U.S.C §103(a) as being unpatentable over Kilner, Frezza, and McNamara

The Appellants first contend that the combination of Kilner, Frezza, and McNamara fail to teach or suggest "performing a commutative operation on segment checksums, wherein the flow control for the data segments is negated by the commutative operation," as required by

limitation [4] of claim 1. App. Br. 12-14. The Appellants specifically argue that Kilner describes the performance of cumulative checksums on a database (DB) with the identical or "mirror image" standby DB to track changes and set up the reversible record, but fails to describe commutative operation on segment checksums. App. Br. 12-13.

The Examiner found that Kilner describes a system that maintains a cumulative checksum for an entire database and further creates a record checksum for each record. Each record checksum (R_CRC) is reversibly incorporated into the cumulative checksum (A_CRC) by shifting the record checksum left and XOR-ing the shifted record checksum into the cumulative checksum. Ans. 11. After a new record is updated, the previous checksum is backed out of the cumulative checksum and a new record checksum is backed in. Ans. 11-12. The Examiner further finds that Kilner is not concerned with flow control of data because the system does not discern between when messages or updates are received. Ans. 12.

We agree with and adopt the Examiner's findings of fact and analysis, and reach the same legal conclusions as in that response. Specifically, we agree with the Examiner's finding that Kilner describes that updated record checksums are backed into the cumulative checksum. That is, updated record checksums are inserted in the cumulative checksum with other previously backed-in record checksums, and therefore, there is no order or flow control between the data or checksums received.

The Appellants further argue that Kilner must rely on flow control since the individual records must be ordered to update the record numbers. App. Br. 13. However, there is nothing in Kilner that specifically requires flow control in order to update records. As discussed *supra*, Kilner

describes a process that updates record checksums without requiring any specific ordering. As such, we find that the combination of Kilner, Frezza, and McNamara teaches or suggests "performing a commutative operation on segment checksums, wherein the flow control for the data segments is negated by the commutative operation."

The Appellants further contend that there is no motivation to combine Kilner and Frezza. App. Br. 14 and Reply Br. 8-9. We disagree with the Appellants. Kilner is concerned with tracking database changes and addresses this problem by describing a system that uses record and cumulative checksums with an active and standby controller. Kilner 1:6-9 and 3:27-54. Frezza is also concerned with the modification and upgrading of software, specifically on a subscriber terminal, and addresses this concern by describing a system that utilizes an encryption key to prevent unauthorized parties from infiltrating the system. Frezza 2:28-3:13. As such, both Kilner and Frezza are concerned with same problem of updating and modifying data or software. A person with ordinary skill in the art would have found it obvious to combine the encryption features of Frezza to the database operations of Kilner in order to increase the security of the system by preventing unauthorized use. As such, we agree with the Examiner's findings and rationale to support the legal conclusion of obviousness. Ans. 3-4 and 13-14. Furthermore, the Appellants have not presented any persuasive rationale or evidence to illustrate why the combination of these known elements would not have been predictable.

CONCLUSIONS OF LAW

The Examiner did not err in rejecting claims 1-3, 10-12, 22-33, and 37-48 under 35 U.S.C §103(a) as being unpatentable over Kilner, Frezza, and McNamara.

DECISION

To summarize, our decision is as follows.

- The rejection of claims 1-3, 10-12, 22-33, and 37-48 under 35 U.S.C §103(a) as being unpatentable over Kilner, Frezza, and McNamara is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2010).

AFFIRMED

ELD